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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/763,641

03/29/2001

Katherine Giles

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7702

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7590

09/16/2004

VOLENTINE FRANCO, & WHITT PLLC
ONE FREEDOM SQUARE
11951 FREEDOM DRIVE SUITE 1260
RESTON, VA 20190

EXAMINER

GHYKA, ALEXANDER G

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,641

Applicant(s)

GILES ET AL.

Examiner

Alexander G. Ghyska

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6-23,25-28 and 30-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-23,25-28 and 30-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

ALEXANDER GHYKA
PRIMARY EXAMINER

AU 2812
Alex Ghyska

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4, 6-8, 11, 13-17, 22-23, 25-28 and 30-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsukune et al (EP 0 519 079) .

The present claims generally call for a method of forming a film on a substrate comprising positioning the substrate on a support in a chamber, supplying to the chamber in gaseous or vapor form a silicon containing organic compound and an oxidizing agent in the presence of a plasma to deposit a film on the substrate, and setting the film such that the carbon containing groups are contained therein. Other claims call for a hydrogen plasma and an apparatus to practice the method claims.

Tsukune et al disclose a process for forming a silicon oxide film comprising the step of depositing a thin film of a silanol, a polymer thereof or a siloxane polymer, each containing an organic group, on a substrate by exciting a gas containing an organosilane or organosiloxane gas and a gas containing H and OH on a substrate in a reaction chamber to cause a reaction in a gas phase. See the Abstract. Moreover, Tsukune et al disclose the reactants as claimed by the presently claimed invention. See

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page 8, lines 25-55. Tsukune et al further disclose that the low polymer adsorbed on the wafer flows on the surface of the thin film of an organic group containing silicon oxide formed on the wafer and is converted to a thin film of an organic group containing silicon oxide while crosslinking with a dangling bond on the surface of the organic group containing silicon oxide. See page 11, lines 32-36. The use of a hydrogen plasma is disclosed on page 10, lines 35-40. Furthermore, Tsukune et al generally disclose the the parallel plate CVD system as required by the present. See page 11, lines 35-55 and page 13, Example 1. Tsukune et al also disclose the use of oxygen as an oxidizing gas. See page 15, Example 4. Therefore, the Claims at hand are anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9, 10, 12, 18-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukune et al (EP 0 519 079).

Tsukune et al is relied upon as discussed above.

Tsukune et al disclose all of the presently claimed limitations with the exception of the various reaction parameters such as the temperature, time and pressure ranges of the Claims at hand.

It would have been obvious for one of ordinary skill in the art to arrive at the presently claimed reaction parameters as the disclosure of Tsukune et al broadly encompasses the presently claimed limitations. The establishment of the optimal reaction parameters is a matter of optimization. Where the general conditions of a claim is disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. See *Allen et al v. Coe*, 57 USPQ 136. Moreover, the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. See *In re Aller*, 105 USPQ 233.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander G. Ghyka whose telephone number is (571)

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272-1669. The examiner can normally be reached on Monday through Thursday during general business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F Niebling can be reached on (571) 272-1679. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGG
August 9, 2004

ALEXANDER GHYKA
PRIMARY EXAMINER

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